

THE LITERARY GAZETTE

Journal of the Belles Lettres, Science, and Art.

N° 2018.

LONDON, SATURDAY, SEPTEMBER 22, 1855.

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King's College, Aberdeen, September, 1855.

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LONDON, SATURDAY, SEPTEMBER 23, 1885.

REVIEWS.

Correspondence of John Howard, the Philanthropist, not before published, with a Brief Memoir and Illustrative Anecdotes. By the Rev. J. Field, M.A., Chaplain of the Berkshire Gaol. Longman and Co.

MR. FIELD having obtained access to some unpublished letters and other papers of John Howard, has presented selections in this volume, which may be regarded as supplementary to his larger biography, and to Mr. Hepworth Dixon's work on the same subject. At the same time, although none of the letters formerly printed are found here, and much of the narrative and accompanying comments are omitted, the author has given a sketch of the life and labours of the philanthropist, and the letters are connected by illustrative matter, so that the work is complete in itself, and forms a very interesting memoir. It was after the publication of his life of Howard that Mr. Field was informed of this correspondence being preserved. Most of the letters are addressed to Howard's friend and relative, Samuel Whitbread, M.P., by whose warm sympathy, judicious counsel, and business co-operation, the philanthropist was encouraged and assisted in his abundant labours. To the Lady Elizabeth Waldegrave, a great granddaughter of Samuel Whitbread, the author is indebted for the use of these valuable documents. The interest of the collection is much enhanced by letters from Mr. Whitbread, one from Sir Joshua Reynolds, concerning Howard's monument in St. Paul's Cathedral, and another from Cowper respecting a monument proposed at Cherson, with an epitaph prepared by the poet. The leading events and general tenor of Howard's life are so universally known, that, without referring to the biographical sketch, we shall merely present to our readers a few passages from the manuscript correspondence so unexpectedly brought to light. One of the first letters is to Lady Mary Whitbread:—

"Rome, June 13, 1770.

"Madam,—I have just received a very obliging letter from my return from Naples. When ladies condemn we must plead guilty, and hope our judges are merciful; so I enter not on my defence. Since I had the pleasure of writing to Mr. Whitbread from Genoa, I have visited Leghorn, Pisa, and Florence. In those places, as indeed both in Rome and Naples, I often see paintings of the first and second class, leaving all inferior ones. I confess that I had seen nothing before I came to Rome. I had often read of the Laocoon, the Apollo, the Gladiators, the Pantheon and Coliseum, the paintings of Raphael, Titian, and Guido, yet the description fell far short,—as it does also of the magnificence and elegance of St. Peter's. To that church and the Vatican I go most evenings, the views from the latter being inexpressibly fine. The Pope I have often seen. The worthy good man dispenses with my kneeling. I should tremble to pay that homage to any human creature that I have seen paid to him. The Pretender passed close by me yesterday, and I had a full strong view of him. He had the look of a mere sot, very stupid, dull, and bending double; quite altered to when I saw him twenty years ago in France."

The rest of the letter contains an account of Naples, and of observations on the temperature of the soil made during an ascent of Mont Vesuvius. Mr. Howard was a Fellow of the Royal Society, and several of his papers were published in their Transactions, but he was so absorbed in the higher objects of prac-

tical philanthropy, that he gradually neglected scientific pursuits. In one of his many continental journeys he was anxious to have more exact knowledge, from personal inspection, of the state of lazarettos, and the regulations of quarantine. To accomplish this, he resolved to subject himself to the perils and privations of a strict quarantine, and to learn from his own experience the life of a pest-house! He repaired to Smyrna, where the plague then raged, with the view of sailing thence in some vessel with "a foul bill of health." From Salonica, when on his way to Smyrna, he writes to Mr. Whitbread:—

"Salonica, July 23, 1786.

"Dear Sir,—I came here about a week ago from Constantinople, where, having the kindest reception from Sir Robert Ainslie, I stayed a month; but the line I take (as physician) prevented my lodging in his house.

"We had a quick passage to this place, which was a happiness, since one in our boat was taken ill, and as I ever pass for a doctor, he was brought to me. I felt the pulse of both his hands, and examined him, and then said he had caught cold and must be kept warm, and by himself. In two hours after I sent for a French captain, whom we took up at the Dardanelles, and told him not to alarm the crew, but that I was persuaded that man had the plague. In two days after we landed I saw his grave.

"I bless God, I am quite well, with calm, steady spirits; but I hope my young friend will never think of visiting this country. With all the conveniences and precautions of other British travellers, the risk is too great for the small acquisition of knowledge or pleasure in such a tour.

"All the British merchants unite in saying the Levant trade would be doubled if there was a lazaretto in England. The Dutch run away with our trade, and the great risk of the plague in England is by the very slight quarantine in Holland. But of that I will get the best information when I am in Holland.

"I am now bound for the island of Scio, as there are the best hospitals in all the Levant. From thence I get to some of the islands in the Gulf of Venice, and so to Venice, there to perform my quarantine, as I have the strongest recommendations from the Venetian ambassador to have everything flung open to me.

"It may be some time before I can write again, as there are no posts in the islands, and August calms in these seas. I have not been so lucky as to fall in with any English ship, or as to have travelled one mile with any of my countrymen, or with any servant since I left England. Affectionate compliments to my young friends. I remain, most sincerely yours,

"S. Whitbread, Esq., M.P.

"P.S. I have taken the liberty to draw on you from this place for thirty pounds.

"Hot weather! but I live on tea, milk, and bread, and never dine with any person; so I keep cool for my prison visits."

In the following letter affecting allusion is made to the bitterest trial of the philanthropist's life—the misconduct of his son, which it afterwards turned out was partly the result of mental disorder, induced by disease:—

"Venice, Lazaretto, Oct. 12, 1786.

"Dear Sir,—I have been two months tossed about with the equinoctial winds; nearly taken by a Tunis pirate; and now confined in an infectious lazaretto; yet my spirits and resolution did not forsake me: but on the receipt of your letter, and those of two other friends, yesterday, I could hardly lift up my head. With David, I say, 'Oh my son Absalom, my son, my son!' and am even ready to add, would to God the raging waves had swallowed me up! But—I check myself—'Shall I receive good from the hand of God, and shall I not receive evil?' I have written to him this post, and also to Mr. Tatnall. Will travelling amuse him? I con-

sent to anything. I once thought that he was of a soft complying temper; I afterwards saw what grieved me. I have often cautioned him not to fling away, by his folly and indiscretion, the probable advantages he enjoyed, but to bend his mind to some particular study; but, alas! alas! I shall hasten home—but still forty days' confinement! May I again be favoured with a line to Vienna! By night and by day I will come from thence to Amsterdam, and directly to England.

"With this great misfortune, I see with accumulated pain what is going forward in England. My greatest enemy could not have wounded me more. Thanks, thanks to every friend who has checked and not subscribed. But alas! could not my friends have stopped it at first by an advertisement? How has my mind revolted when publicly desired to sit for my picture; for alas! our best performances have such a miserable mixture of folly and sin that 'tis vanity and presumption to desire praise.

"I am sensible of your kindness in your exertions for a new gaol. With esteem, respect, and affection, I am your afflicted friend,

"S. Whitbread, Esq., M.P."

"J. HOWARD.

The sensitive repugnance expressed regarding the mooted testimonial of public respect appears again in another letter from Venice, on the 26th of October, 1786:—

"Parade and show my friend Mr. Whitbread well knew was not my ruling passion, and God knows whether I mind riches, or pleasures, or glory among men. A private burial I had fixed if I died in England. If I die abroad, in confidence I enclose a paper which you will return me if I have the pleasure, as indeed it will be, to see you: and almost the last words I said to Thomas (knowing the dangerous expedition I was going upon) were to the same purpose, as to my not being removed if I died abroad, and as to the plain slip of marble and the inscription. I thought it would show that my mind was fixed and unaltered.

"I have sent some of my drawings of lazarettos to be engraved in Holland. I shall hasten home as I told you; but it must be some months, as the winter roads in Germany, of which my good young friend may have some idea, and the snows make travelling slow work. I am also wanted, having the will, &c. of the late Sir Lionel Vane Fletcher. Soon after my arrival I must perform my promise to some Irish members. I intended then to visit Scotland, and also to give my farewell present to every country gaol, namely a Bible, which I have spoken about, and which was to be doubly chained. After these four things, I hoped to have retired in obscurity and silence. But now alas! I fear there will be no rest for me till in my grave. With affectionate remembrances, dear Sir, believe me ever truly yours,

"JOHN HOWARD.

"S. Whitbread, Esq., M.P."

Mr. Pratt, the author of the poem 'The Triumph of Benevolence,' has recorded an amusing anecdote of Howard as to his dislike of being made a subject for painters and other artists:—

"Unless you had personally known Mr. Howard, it is impossible you should have the smallest idea of the pleasant manner with which he spoke on his own personal subject:—'I have detected a fellow at work upon this face of mine, ugly as it is,' said he, 'even as I have been walking in the streets of London; and if a hackney-coach has been within call, I have popped into it, drawn up the blinds, and sat snug till I got to my own door, and then I have leaped out, and run into my own house as if I was apprehensive a bailiff was at my heels. Nay, I have often had my door itself infested by a lurking artist, who was literally in wait to take me off. But one day, since my return, a trick I played one of these takers-off diverted me excessively. You must know I am a great gazer at the novelties that are continually presented at the print-shops in this great city; I was standing at that of Carrington Bowles, in St. Paul's Churchyard, the other day, to look at some political caricatures very plea-

santly executed, when, happening to cast my eye side-long, I discovered a fellow operating on my phiz with all his might. Perceiving himself caught in the fact, he lowered his paper, and pretended to be, like myself and a number of others, looking only at the prints. I was just then in the humour to pay off this deception by another; so seeming like him to be wholly engrossed by a figure called Scotch Economy, well calculated to provoke the risible muscles, I threw mine into such contortions, and gave such sudden changes from one deformity to another, that had my painter etched any one of my features in its then position, the resemblance betwixt my actual self and the copy would have been just as striking as—I could desire it to be. The painter, however, at length perceived the stratagem, and smiling as if he gave me credit for it, put his pencil into his pocket and went away. I own I enjoyed the joke, and have since practised it more than once, with no less success."

The determined opposition of Mr. Howard led to the monument scheme being abandoned after 1533*l.* had been subscribed. About 500*l.* was restored to subscribers on demand, and of the remainder part was employed in the liberation of poor prisoners, and the surplus was reserved for a memorial after his death, the erection of which during his lifetime he constantly deprecated. Prince Kaunitz assured him, that although he might veto such a monument in England, the grateful people of Vienna would certainly place one in their prisons. To which the reply was, "I have no objection to its being erected where it shall be invisible." From two letters of 1787, we take two sentences which afford a glimpse into the social state of Ireland and of Scotland at that period. Writing from Dublin:—

"In this country every public institution is a private emolument; all are corrupt or totally inattentive, from the highest to the lowest. It never can be a rich, united, or independent state. Many parts are as savage as the inland parts of Russia."

The House of Correction at Edinburgh is thus described:—

"In three close rooms were forty-seven women, some of them lying sick. No magistrate ever looked in upon them, and no clergyman ever attended them, or used any endeavours to reclaim them. The Lord Provost said, they were so hardened it could have no effect. I differed in my opinion from his Lordship; and told him that, on seriously conversing a few minutes with several of them, I saw the tears in their eyes."

The last letter extant of the great philanthropist—a document on that account alone of singular value—and at the present moment interesting from its description of the country, is dated from Cherson, in Tartary, Nov. 14, 1789:—

"Dear Sir,—I wrote to you on my arrival at Moscow, on the first, and permit me to say, constant impression of your kindness. I also wrote to you about a fortnight after, informing you of my intention to visit the army and navy hospitals towards the Black Sea. I was somewhat sensible of the dangers I had to encounter and the hardships I had to endure in a journey 1300 or 1400 miles, with only my servant. I went on pretty well till on the borders of Tartary, when, as I depended on my patent chain, my great trunk and hat-box were cut off from behind my chaise. It was midnight, and both of us having travelled four nights, were fast asleep. However, we soon discovered it, and having soon recovered the shock, I went back directly to the suspected house, and ran in among ten or twelve of the banditti. At break of day I had some secured, and search made. My hat-box was found, but my great trunk I almost despaired of, though I stayed before the door in my chaise two days. Providentially, the fourth day it was found by a peasant. The brass nails

glistened in a part where the oilskin was worn. His oxen would not go on; he beat them, but they would not go on; he then saw something, but durst not approach it till another peasant came up, when, after signing themselves with the cross, they went up to it and carried it directly to the magistrate of the village. He sent after me to a town about eighty miles off, where I was to stay two or three days, and I returned. I found by my inventory that not a single handkerchief was lost, and they missed about one hundred guineas in a paper, in the middle of the trunk. My return stunned them. All would have been moved off before light. I have broken up the band; four will go into —. I am well. My clothes and bedding I think warmer since I got them out of the fire. I saw some other travellers, who were robbed and had lost their money and goods on the road.

"Thomas (his servant) showed me his marketing. A quarter of lamb, that he said would cost 5*s.*, he had paid 7*d.* for. My marketing is a good melon for 1*d.*, which supplies my English luxury of currants with my bread and tea. I have visited the hospital here, in which there are about 800 sick recruits. I have this week been (only) about forty miles, for between —, a deserted town, and Otschakow, lies the army hospital. There I stayed two or three days, as I found about 2000 sick and wounded. They are dreadfully neglected. A heart of stone would almost bleed! I am a spy, a sad spy on them, and they all fear me. The abuses of office are glaring, and I want not courage to tell them so.

"I have just received your kind letter from Warsaw. I read it over and over again with fresh pleasure. I exult in the happiness and prosperity of your house, and that my young friend likes Cardington.

"I shall be moving for the Navy Hospital at Sebastopol, in the south of the Crimea, about the end of the year; and I hope by some means to be at Constantinople the beginning of March.

"The wild Cossacks who live under ground in the Crimea must look sharp if they rob me, as I will not go to sleep any night on the road, and I am well armed. I am persuaded no hurry or fear will be on my mind. My journey, I still think, will engage me for three years; and as I have a year's work in England, I think little of Cardington.

"The land for several hundred miles is the finest garden mould, not a stone mixed with it, nor a single tree, nor any inhabitants. A person may have any quantity for ten years, and after that by paying the Empress fifteen roubles (about one and three-quarter guineas a year). Fine haystacks a person showed me: two thirds he took, and one third he gave the Empress, but no rent. He said he had bought fine meat for less than a halfpenny a pound before the army came into this country.

"I shall, I understand, take possession of some poor Turk's deserted house in the Crimea for two months. As I am well informed, there were double the number of inhabitants in the capital than there are now in all that fine country. The cruelty of the Russians forced 100,000 to quit their country. Great things are expected on the great St. Nicholas's day (next month). He is the patron saint of this country, who assisted them in destroying 4000 or 5000 men, women, and children at Otschakow last year, on his day. But as our trades are different I wish to have no further acquaintance with that saint. Ever wishing to be with my affectionate friend. "JOHN HOWARD.

"Samuel Whitbread, Esq., M.P."

Mr. Field gives a historical sketch of the acquisition of the Crimea by the Russians, concluding with the just remark, that "surely the deprivation of a province obtained by such base treachery and atrocious violence, is the least retribution deserved." Dr. Clarke, who travelled in the country not long after, and witnessed the cruel treatment of the surviving natives, thus sums up his narrative of the conquest:—

"If it be now asked how the Russians have conducted themselves with regard to the Crimea, after the depravity, the cruelty, and the murders, whereby it was obtained, the answer may be given in a few words. They have laid waste the country, cut down the trees, pulled down the houses, overthrown the sacred edifices of the natives, with all their public buildings; destroyed the public aqueducts, robbed the inhabitants, insulted the Tatars in their acts of public worship, torn up from the tombs the bodies of their ancestors, casting their relics upon dunghills, and feeding swine out of their coffins; annihilated all the monuments of antiquity, breaking up alike the sepulchres of saints and pagans, and scattering their ashes in the air. 'Auferre, trucidare, rapere falsis nominibus, imperium; atque ubi solitudinem faciunt, pacem adulant.'"

Dr. Clarke's account of the last days of Howard at Cherson was derived from Admirals Mordinoff and Priestman, the latter of whom, an Englishman in the Russian navy, was with him at his death, and read over his grave the burial service. He died January 20, 1790. His burial took place with all the honour that the authorities of the place could devise. A small pyramid was erected over the grave, but Dr. Clarke does not mention any inscription. When Bishop Heber visited the tomb it was in a very dilapidated condition. Whether the following letter and inscription from the pen of Cowper, addressed to Bacon the sculptor, relates to this monument, or to some other one proposed at Cherson, Mr. Field says he is unable, after inquiry, to discover:—

"Weston Underwood, Sept. 7, 1790.

"Dear Sir,—I have found no need to make a new inscription, your own being in respect of the matter of it unimprovable. The alterations that I have made in the expression I have made merely on this principle, that the merit of all monumental writing consists in a strict adherence to classical neatness of phrase and connexion, that the members of which the whole consists may slide handsomely into each other, and that there may not be one syllable redundant.

"You will find my labours on the other side, for which I can say nothing but that I have done my best, which best is always most readily at your service. I am, with Mrs. Unwin's respects, yours, dear Sir, very affectionately, "WM. COWPER.

"John Bacon, Esq.

"Sacred to the Memory of
JOHN HOWARD,

who
Devoted Life and Fortune to the service of his fellow-creatures.
Author of many merciful regulations
In the Gaols of his own native England.

He compassed Europe
That he might communicate them
To other countries also.

Prompted forth a second time
By the desire and hope

Of alleviating that dreadful calamity the Plague,
He terminated his course of Benevolence
At this place,

Jan 20, 1790, aged 64.

He united in his character
Many virtues.

Each worthy of a Memorial,

All springing from the Faith and animated by the Charity

Of a Christian.

He refused a Statue at home,

But has here a Monument

That posterity may share with us the benefit of his example."

Among the letters of Howard preserved by Mr. Whitbread, is the following respecting the monument in St. Paul's Cathedral, from Sir Joshua Reynolds:—

"July 24, 1791.

"Sir,—I am desired to acquaint you that the Committee of Academicians appointed to superintend the monument to be erected in St. Paul's Cathedral, having seen the design by Mr. Bacon for the intended monument to Mr. Howard, and finding that it is to consist of two figures, are of opinion that such a group will not properly correspond to the monument of Dr. Johnson, which is to be only a single figure. If, upon reconsideration

your committee still think that a group is absolutely necessary, the committee of St. Paul's will endeavour to find out another situation in the church proper for Mr. Howard's monument.

"The committee meet in St. Paul's for this purpose on Friday, the 29th inst., unless they hear to the contrary. (Signed) 'J. REYNOLDS.'

"On the cover of the above letter Mr. Whitbread has written—'My answer was—

"SIR.—I am unable of myself to give any answer to the contents of your favour of the 24th, but I will acquaint Mr. Nicholls by this post.

"However, I will take the liberty to remark that, whatever alteration is made for Dr. Johnson's monument, it is my sincere wish that the place appointed for Mr. Howard's may not be altered.

"Sir, yours, &c. 'S. W. Tumbidge.'

We need scarcely say that the place appointed for the monument was not altered, and that opposite the statue of England's great moralist, stands that of the world's great philanthropist, with an inscription truthfully describing his character, and setting forth his claims to such pre-eminence. It is gratifying to remember that this statue was the first national monument erected in St. Paul's. Other memorials of great and of good men have since been placed in the sacred edifice, but of none may Englishmen speak with more honourable pride than of the monument of John Howard.

Reports of the Kew Committee, presented to the Council of the British Association, June 27th and September 12th, 1855.

The Observatory at Kew, founded and maintained by the British Association, has become, through its services in the verification of meteorological instruments, so entirely a national establishment, that it is high time it were transferred to the Government, and provided for out of the parliamentary estimates. Nearly the whole of the average available funds of the Association are absorbed by this establishment, and its services are so purely of a national kind, we are surprised the Council submit to so partial an application of its money. 500*l.* per annum are devoted to the maintenance of the Kew Observatory, leaving only 50*l.* for grants in aid of all the other departments of science.* The number of meteorological instruments verified during the past year has been:—

	Thermometers.	Barometers.	Hydrometers.
For the United States Government ...	1000	50	
Admiralty and Board of Trade ...	1340	200	1269
Opticians ...	180	7	
Total ...	2520	257	1269

The Government are extremely liberal in their thanks for the services of the Kew Observatory, and make free use of its apparatus and experimental discoveries for the benefit of the Liverpool and other observatories already under its care, and for their establishments at Portsmouth and Plymouth, but instead of affording any return, a refusal has actually been given even to the simple application of supplying the building with gas. The correspondence, first with one official commissioner and then with another, is characteristic:—

* It will be seen, however, on referring to our report of the proceedings of the present meeting at Glasgow, that the increase of funds has enabled the Council of the Association to grant sums of money this year to the extent of 250*l.*, in addition to the 500*l.* for the Kew Observatory.

"Mr. Gassiot to the Hon. Sir W. Molesworth, Bart.

"Clapham Common, 26th May, 1855.

"Sir,—On the 20th of last March, by the direction of the Kew Committee of the British Association, I addressed a letter to the Hon. Charles Gore, Chief Commissioner of H.M. Woods, Forests, and Land Revenue Department, of which the following are extracts:—

"You are, I believe, aware that some years since H.M. Government placed the Observatory in the Old Deer Park at Richmond, at the disposal of the British Association, with the view of its being used not only for the deposit of the various scientific instruments and apparatus, as well as books belonging to the Association, but also for the carrying on of various scientific experimental investigations.

"Much inconvenience has arisen in the prosecution of the latter, from the Observatory not being properly lighted; and I have been requested by the Committee to suggest to you the advisability of the interior of the building being lighted with gas.

"Exclusive of the desirableness of the gas being laid on, as has been done in the Magnetic and Electrical Department of the Royal Observatory at Greenwich-park, and in the event of which the Committee would be enabled to carry out a variety of scientific investigations, which they are now totally prevented from commencing, I may state that the increased requirements arising from the number of barometers and thermometers, which are at present in course of verification for the use of H.M. Navy and Mercantile Marine, has rendered it indispensable that a corresponding increase should be made in the number of oil-lamps; and the Committee cannot but be sensible, that in a building in which so large a quantity of papers and books is distributed, a corresponding increase in the danger of fire has arisen; this would be entirely obviated by the introduction of gas into the building.

"Limited as are the funds which are at the disposal of the Association, the expense of the gas proposed to be used would be defrayed by the Committee, and all they ask is that it should be laid on in the different rooms; the Committee hope that as no pecuniary assistance is received by the Association from H.M. Government, and that as the exertions of the Committee have latterly been devoted to the great national object of verifying the meteorological instruments used by H.M. Navy, this request will not be refused.

"I am also directed to acquaint you, that the Committee consider it desirable the building should be examined by your surveyor, as some repairs are required, which, if not made at an early period, may ultimately cause considerable expense to the Government.

"On the 27th March, Mr. Gore replied, stating 'that the building of the observatory was under the charge of the Commissioners of Her Majesty's Works; any communication respecting its condition, or as to lighting it with gas, should be made to that department, at No. 12, Whitehall-place, and I have therefore transmitted copy of those portions of your letter which have reference to that building to that office.'

"Nearly two months having elapsed without being favoured with any communication from you, I have been directed by the Committee to state, that they should feel obliged by your informing them whether their request can be complied with: I may add that, in respect to the repairs, these are absolutely necessary, in order to prevent a much larger outlay at no great distance of time. I have the honour to be, sir, your obedient servant,

(Signed) JOHN P. GASSIOT.

"The Secretary of the Board of Works, &c., to Mr. Gassiot.

"Office of Works, &c., June 2, 1855.

"Sir,—The Commissioners of Her Majesty's Works, &c., have had transmitted to them, by the Hon. Charles Gore, one of the Commissioners of Her Majesty's Woods, &c., extracts from your letter to him of the 20th March last in which you

request, on behalf of the British Association, that they may be permitted to burn gas in the Observatory in the Old Deer Park at Richmond, the use of which has been allowed to them; and also that the gas may be laid on to the different rooms free of expense to the Association, they engaging to pay the cost of the gas proposed to be used.

"In reply, I am directed to inform you that the Board have no objection to the use of gas in the building in question, but that the whole of the work must be done by, and at the expense of, the Association, and to the satisfaction of the Board's officer in charge of the district. I am, sir, your most obedient servant,

(Signed) J. THOMBORROW, Assistant Secretary.

"Mr. Gassiot to the Secretary of the Board of Works, &c.

"Observatory, Old Deer Park, Richmond, June 7, 1855.

"Sir,—I beg to acknowledge the receipt of your letter of the 2nd instant, wherein you state that, in reply to a communication made by me to the Hon. Charles Gore on the 20th of last March, relative to the lighting of the Observatory with gas, the Board has no objection to the use of gas in the Observatory, but that the whole of the work must be done at the expense of the British Association, and to the satisfaction of the Board's officer in charge of the district.

"In a letter addressed to the Right Hon. the Chief Commissioner, of the 26th ult., but which you have not done me the honour to notice, I explained, that in consequence of the increased requirements arising from the number of barometers and thermometers which are at present in course of verification for the use of Her Majesty's Navy and the Mercantile Marine, it was highly desirable that the Observatory should be lighted with gas.

"The entire outlay attending the important work done in the Observatory has been defrayed by the British Association; and considering that so large a portion consists in the verification of instruments for the use of the navy, I cannot but regret that so trifling a request should have been so summarily refused; for although upwards of two months have elapsed since the application was made, no one has visited the Observatory from your department to inquire as to the advisability of the application being granted.

"I believe I am also correct in stating, that during the many years the Observatory has been occupied by the Association, no officer from your Board has visited the building. I name this because a portion of my letter referred to its present dilapidated condition, to which the Committee had particularly requested me to draw the attention of your Board. I have the honour to be, sir, your obedient servant,

(Signed) J. P. GASSIOT.

"J. Thomborrow, Esq., Assistant Secretary, Parks, Palaces, &c.

"Mr. Gassiot to the Hon. Charles Gore.

"Kew Observatory, June 12, 1855.

"Sir,—The Chief Commissioner of Her Majesty's Works not having favoured the Kew Committee with any communication relative to their application to you for the introduction of gas into the Observatory, and which application you informed me, in your letter of the 27th of last March, you had forwarded to him, I addressed a letter to Sir William Molesworth on the 26th ult.; on the 2nd inst. the Assistant-Secretary writes me as follows:—

"I am directed to inform you that the Board have no objection to the use of gas in the building in question, but that the whole of the work must be done by, and at the expense of, the British Association, and to the satisfaction of the Board's officer in charge of the district.

"The correspondence has been submitted to the Kew Committee, and I am instructed to inquire if you will grant permission for the gas to be laid on to the Observatory through the Park, and whether, in the case of your granting such permission, any, and if so, what amount of compensation will have to be paid to the tenant in possession.

"The Committee are anxious, before they pro-

sent their Report to the Council of the Association, to be informed as to the total expense they would have to incur in laying on the gas; and as, in a former instance, compensation was to have been paid for the carrying of materials across the Park, the Committee considered it advisable that this should be ascertained before any outlay is commenced. I have the honour to be, sir, your obedient servant,

"(Signed) J. P. GASSIOT.

"To the Hon. C. Gore, Chief Commissioner of Her Majesty's Woods, Forests, and Land Revenue,

"Mr. Gore to Mr. Gassiot.

"Office of Woods, &c., June 18, 1855.

"Sir,—In reply to your letter of the 12th instant, I have to inform you, that, provided the gas pipes are laid down as nearly as possible in the direction of the footpath leading from Mr. Fuller's farm premises to the Observatory in the Old Deer Park, as requested by you on behalf of the Kew Committee, I am ready to grant the permission sought on payment of an annual acknowledgment of one shilling.

"As regards the compensation to be made to the tenant of the park, I am informed that if the works are not proceeded with until October next, and completed without interruption, and to the satisfaction of Mr. Clutton, the Crown Receiver, he will not require any compensation; and as Mr. Clutton has been informed by the Superintendent of the Observatory, that the pipes will not be required to be laid down until the latter part of the year, I presume that the Committee will not object to accede to this arrangement. I am, sir, your obedient servant,

"(Signed) CHARLES GORE.

"J. P. Gassiot, Esq."

It appears that the Commissioners found an excuse in some Act of Parliament for not giving the land contiguous to the Observatory rent free, but the Association may have it at the charge of ten guineas an acre! The Report of the Committee on the foregoing correspondence is as follows:—

"The Observatory was originally placed at the disposal of the British Association by Her Majesty's Government in 1842, and has since been used as a place of deposit for the various books, papers, and apparatus belonging to the Association, as well as for the carrying on a continued series of scientific investigations, which have from time to time been fully detailed in its annual reports.

"In the Report of the Committee presented to the Association at their meeting at Hull in September, 1853, it was recommended that an application should be made to the Commissioners of Woods and Forests for the temporary use of a small portion of the ground near the Observatory for the erection of suitable places for observing: this recommendation having been approved by the Association, Colonel Sabine and the Chairman of the Committee waited on Sir W. Molesworth in January, 1854, and explained that the land which the Committee required would not exceed two acres. Sir W. Molesworth stated, that there was some doubt whether the Park was under the control of his Board, but that he would be happy to forward the application.

"The Committee not hearing anything further from Sir W. Molesworth, applied to the Hon. Charles Gore, who, at their request, visited the Observatory on the 1st of April, 1854, in company with Mr. Clutton, when it was arranged that the Committee should pay a sum of 10*l.* 10*s.* per acre for the use of the land to the tenant, until Michaelmas, 1854, at which time it was stated the present tenure with the Crown would cease, and it being then considered that at the termination of the agreement arrangements might be made with the Crown for the use of this small portion of the ground; this, however, is now found to be impracticable: the Commissioner having subsequently informed the Committee that he has no intention to determine the present tenancy of the Park, the Committee are therefore precluded from becoming the direct tenants from the Crown, even at a rental

(see Letter, 11th April, 1855); and consequently they must either continue to pay the present exorbitant rent of 10*l.* 10*s.* per acre, or give up the land to the tenant, although an expense of 48*l.* in fencing, and nearly 50*l.* in the erection of a magnetic house, has been incurred.

"In respect to the lighting of the Observatory with gas, the Committee consider that it is highly desirable that this should be effected; for, exclusive of the increase in the general scientific work carried on in the Observatory, the constant attention requisite in the verification of the barometers and thermometers for the use of H.M. Navy and the Mercantile Marine, renders a more perfect and uniform system of lighting highly desirable, as also avoiding the danger of fire by the use of oil lamps.

"The Committee having at last ascertained, by correspondence, that the Observatory and the Park are under the control of separate Boards, the Observatory being under the direction of the Commissioners of Parks, Palaces, and Public Buildings, while the Park is under that of the Woods, Forests, and Land Revenues, applied to the Chief Commissioner of the latter department, to ascertain whether he would grant permission to lay down the gas-pipes in the Park, and whether any, and what amount, of compensation would have to be paid to the tenant who rents the land; by the correspondence it will be seen that no compensation will be required, if the gas-pipes are laid down during the winter, and that the Chief Commissioner will not object, provided the Association will undertake to pay a nominal rent of 1*s.* per annum.

"The Committee have ascertained that the cost of laying down the gas to the Observatory would be about 220*l.*, and in the event of its being considered advisable, all that will now be necessary to obtain is the sanction of the officer of the Parks, Palaces, and Public Buildings department, who has charge of the district, and whose name and address the Committee will endeavour to ascertain.

"JOHN P. GASSIOT, Chairman."

The Kew Observatory, as already remarked, has become an establishment purely national, and the Association ought at once to be relieved of this very partial and absorbing demand upon its funds.

Mineral Statistics of the United Kingdom of Great Britain and Ireland for 1853 and 1854. By Robert Hunt, F.R.S., Keeper of Mining Records. Published for the Geological Survey. Longman and Co.

THE returns of the mineral produce of the United Kingdom issued from the Mining Office of the Geological Survey have only embraced hitherto tin, copper, lead, and silver. In the present volume most elaborate returns are given, in addition to these, of iron and coal, and they are accompanied with very curious details of the population employed, and of the number of collieries and furnaces in work. The estimates which have been formed by different authors as to the quantity of coal raised annually in Great Britain and Ireland vary from 31,500,000 tons to 54,000,000, and great caution has been, therefore, employed in collecting the particulars regarding this all-important mineral. Circular letters were distributed over our coal-fields, requesting information respecting the produce of the collieries in each district, and the result has proved the consumption to be nearly twenty per cent. more than the highest previous estimate. Large as the quantity appeared to be exaggerated in 1853 by Mr. Hall, in his treatise 'On the Extent and Probable Duration of the Northern Coal Field,' it has been exceeded by the returns officially collected by the Geological Survey. In England and Wales every coal-producing county was visited, and personal inquiries

made; and it is intended to publish a similar document annually. The number of furnaces throughout the kingdom actually in blast in 1854 was 555, as follows:—

"Northumberland and Durham	59
Yorkshire	21
Derbyshire	25
Cumberland	2
Lancashire	1
North Staffordshire	21
South Staffordshire	145
Shropshire	28
Denbighshire	9
Glamorganshire (A)	21
Ditto and Monmouthshire	100
Gloucestershire	5
Ayrshire	30
Leamington	72
Fife	9
Linlithgowshire	2
Stirlingshire	2
Clackmannanshire	2
Dumfriesshire	1

555"

And the following is a general summary of the mineral produce of the kingdom in 1854, valued at the current prices of the year:—

	£	5 <i>s.</i>	6 <i>d.</i>
"Tin..... Tons	5,763	690,000	
Copper	13,042	1,229,807	
Lead	64,005	1,472,115	
Silver..... Ozs.	700,000	192,500	
Iron (pig) Tons	3,069,838	9,500,000	
Coal (at pits)	64,661,401	14,975,000	
Zinc		16,500	
Arsenic, Sulphur ores, and sundry minerals		500,000	
		£28,575,922"	

Of the number of persons employed in mineral occupations throughout the kingdom in 1854 the following is a summary:—

"Males under 20.....	86,647
" 20 and upwards.....	208,520
Total	295,167
Females under 20.....	4,994
" 20 and upwards	3,816
Total	8,810
Total number employed in Mining Operations in Great Britain	303,977"

Much praise is due to the Keeper of the Mining Records for the diligence with which he has collected these statistics, occupying in detail upwards of one hundred pages, and we cannot doubt that a regular annual edition of them, for observation and comparison, will be of great commercial and political value.

Lyra Germanica. Translated from the German by Catherine Winkworth. Longman & Co.

[Second Notice.]

THE brave and pious hero of the Thirty Years' War often used to sing the hymn of which we gave a translation in our last number, with his army, and it acquired the name of the battle-song of Gustavus Adolphus. He sung it for the last time immediately before the battle of Lutzen. The songs of Von Löwenstern were also great favourites with the army, and their strains inspired the troops with Christian heroism amidst the struggles and sufferings of war. Löwenstern was the son of a saddler, whom the Emperor Ferdinand III. ennobled for his public services. He was at once a poet, a musician, and a

statesman. The following hymn is said to have been a favourite of Niebuhr the historian:—

"Christ, Thou the champion of the band who own
Thy cross, oh make Thy succour quickly known;
The schemes of those who long our blood have sought
Bring Thou to nought.

"Do Thou Thyself for us Thy children fight,
Withstand the devil, quell his rage and might,
Whate'er assails Thy members left below
Do Thou o'erthrow.

"And give us peace; peace in the church and school,
Peace to the powers who o'er our country rule,
Peace to the conscience, peace within the heart,
Do Thou impart.

"So shall Thy goodness here be still adored,
Thou guardian of Thy little flock, dear Lord,
And heaven and earth through all eternity
Shall worship Thee."

The greatest of all the German hymn-writers is Paul Gerhardt, who died in 1676. He was long celebrated as a popular preacher at the Nicolai-Kirche, in Berlin, whence he retired because the Government of the day did not allow him sufficient freedom of utterance, and became Archdeacon of Lübben. With him culminated the elder school of German sacred poetry, a school distinguished by its depth and simplicity:—

"In the latter half of the seventeenth century a new school was founded by Johann Franck, and Johann Scheffler, commonly called Angelus. The former was burgo-master of Guben in Lusatia; the latter physician to Ferdinand III.; but in 1663 he became a Roman Catholic, and afterwards a priest. The pervading idea of this school is the longing of the soul for that intimate union with the Redeemer of the world, which begins with the birth of Christ in the heart, and is perfected after death. This longing breathes through the hymns of Franck given in this collection; one of them, 'Redeemer of the nations, come,' is a translation of the 'Veni, Redemptor gentium' of St. Ambrose. Angelus dwells rather on the means of attaining this union by the sacrifice of the Self to God through the great high-priest of mankind, an idea expressed in his hymns with peculiar tenderness and sweetness. We find much of his spirit and sweetness lingering in modern times about the few hymns of the gifted Novalis.

"The greatest poet of this school is however Gerhardt Tersteegen, who lived during the early part of the eighteenth century as a ribbon manufacturer at Mühlheim. His hymns have great beauty, and bespeak a tranquil and child-like soul filled and blessed with the contemplation of God. The well-known hymn of Wesley's, 'Lo God is here! let us adore,' belongs to him, and in its original shape is one of the most beautiful he ever wrote, but is frequently met with only in a disfigured and mutilated form. To this school belong a large number of the hymns in this collection, among which those of Deszler, an excellent philologist of Nuremberg, and of Anton Ulrich, the pious and learned Duke of Brunswick, are particularly good. Those of Schmolck, the pastor of Schweidnitz, who exercised great influence over the hymn-writing of his day, have more simplicity than most of the rest, but are characterised by a curious mixture of real poetry and deep feeling, with occasional vulgarities of expression. The defects of this school, which showed themselves strongly in the course of the eighteenth century, were a tendency that the feeling should degenerate into sentimentality, and the devout dwelling of the heart on Christ's great sacrifice, into compassion and gratitude for His physical sufferings—defects which greatly disfigure many of the Moravian hymns."

We give one of Paul Gerhardt's, written in 1659:—

"Go forth, my heart, and seek delight
In all the gifts of God's great might,
These pleasant summer hours:
Look how the plains for thee and me
Have deck'd themselves most fair to see,
All bright and sweet with flowers.

"The trees stand thick and dark with leaves,
And earth o'er all her dust now weaves
A robe of living green;
Nor silks of Solomon compare
With glories that the tulips wear,
Or lilies' spotless sheen.

"The lark soars singing into space,
The dove forsakes her hiding-place,
And coos the woods among;
The richly-gifted nightingale,
Pours forth her voice o'er hill and dale,
And floods the fields with song.

"Here with her brood the hen doth walk,
There builds and guards his nest the stork,
The fleet-wing'd swallows pass;
The swift stag leaves his rocky home,
And down the light deer bounding comes
To taste the long rich grass.

"The brooks rush gurgling through the sand,
And from the trees on either hand,
Cool shadows o'er them fall;
The meadows at their side are glad
With herds; and hark! the shepherd lad
Sends forth his mirthful call.

"And humming, hovering to and fro,
The never-weary'd swarms forth go
To seek the honey in the flowers;
And through the vine's yet feeble shoots
Stream daily upwards from her roots
New strength and juices good.

"The corn springs up, a wealth untold,
A sight to gladden young and old,
Who now the air voices lift:
To Him who gives such plenteous store,
And makes the cup of life run o'er
With many a noble gift.

"Thy mighty working, mighty God,
Wakes all my powers; I look abroad
And can no longer be alone;
I too must sing when all things sing,
And from my heart the praises ring
The Highest loveth best.

"I think, Art Thou so good to us,
And scatterest joy and beauty thus
O'er this poor earth of ours;
What nobler glory shall be given
Hereafter in Thy shining heaven,
Set round with golden towers!

"What thrilling joy when on our sight
Christ's garden beams in cloudless light,
Where all the air voices lift:
Still laden with the unwearied hymn
From all the thousand seraphim
Who God's high praise repeat!

"Oh were I there! Oh that I now,
My God, before Thy throne could bow,
And hear my heavenly psalm!
Then like the angels would I raise
My voice, and sing Thy endless praise
In many a sweet-toned psalm.

"Nor can I now, O God, forbear,
Though still this mortal yoke I wear,
To utter oft Thy name;
But still my heart is bent to speak
Thy praises; still, though poor and weak,
Would I set forth Thy fame.

"But help me; let Thy heavenly showers
Revive and bless my fainting powers,
And let me thrive and grow
Beneath the summer of Thy grace,
And fruits of faith bud forth apace
While yet I dwell below.

"And set me, Lord, in Paradise
When I have bloomed beneath these skies
Till my last leaf is flown;
Thus let me serve Thee here in time,
And after, in that happier clime,
And Thee, my God, alone!"

Some beautiful hymns were written by Anton Ulrich, the good Duke of Brunswick; among which is the following on Christian resignation:—

"Leave all to God,
Forsaken one, and still thy tears.
For the Highest knows thy pain,
Sees thy sufferings and thy fears;
Thou shalt not wait His help in vain,
Leave all to God.

"Be still and trust!
For His strokes are strokes of love,
Thou must for thy profit bear;
He thy filial fear would move,
Trust thy Father's loving care,
Be still and trust!

"Know, God is near!
Though thou think Him far away,
Though His mercy long have slept,
He will come and not delay,
When His child enough hath wept,
For God is near!

"O teach Him not
When and how to hear thy prayers;
Never doth our God forget,
He the cross who longest bears
Finds his sorrows' bounds are set,
Then teach Him not.

"If thou love Him,
Walking truly in His ways,
Then no trouble, cross or death,
Shakes thy heart, or quells thy praise,
All things serve thee here beneath,
If thou love God!"

Of the hymns of the later German school many are familiarly known in this country, through the Moravian collections, and through imitations and translations by Wesley and his followers. They have much of the same spirit which breathes in the spiritual poems of Madame Guyon, some of which every reader knows through the versions of Cowper. In the older German hymns, and especially in the hymns of Paul Gerhardt, there is a richness of thought and beauty of diction that give them a high place in general literature.

NOTICES.

Handbook for Travellers in Portugal. With a Travelling Map. John Murray.

PORTUGAL is one of the least travelled countries in Europe, but it abounds in characteristic scenery and in places of the highest interest to Englishmen, as having been seats of action in the great Peninsular War. The voyage thither by the Peninsular and Oriental Company's steamers from Southampton is so easy, that many will thank Mr. Murray for this most tempting and valuable addition to his list of continental handbooks, and set off on a tour thither before the season is too far advanced. Vigo harbour is reached on the evening of the third day, and the tourist may leave the vessel either there, at Porto, or at Lisbon. The capital city is, however, most likely to be chosen as the place of debarkation, and the routes in the handbook, forty-seven in number, are mostly taken from this point. They are detailed under seven sections: 1. Lisbon; 2. Alentejo, and Estremadura Transagana; 3. Kingdom of Algarve; 4. Estremadura, North of the Tagus; 5. Beira; 6. Entre Douro e Minho; and 7. Traz os Montes. A useful travellers' vocabulary of the language of the country is given, and when we add that the text occupies 175 pages, and that the index of reference to it fills forty-five columns of small print, it will be seen that the amount of information collected together in this space is of the most varied kind. It forms an admirable companion volume to the renowned 'Handbook of Spain.'

Byron: Salathiel, or the Martyrs; and other Poems. By Emilia Julia. Routledge and Co.

APPARENTLY young and enthusiastic, the author of these poems displays inventive fancy and ardent feeling, without corresponding judgment and taste. Emilia Julia must try to carry more ballast and less sail. But the faults are those that lean to virtue's side in the matter of poetry, and are more hopeful than those of judicious dulness. Some lines from the cento of admiring stanzas to Byron will best show the tone of the writer's sentiments and feelings:—

"I have been called thy child, although long years
Had glided o'er thy grave ere I was born;
But I have wept for thee the kindred tears
Which those who owed thee love denied with scorn;
Like thine, my heart with early grief was torn;
I know to feel for all who fall away,
But most for thee, whose lot it was to mourn
Thy best affections, wrong'd, and led astray,
To seek men's barren praise, despising such as they.

"Byron! I name thee with mysterious awe—
In wonderment my spirit bends to thine;
Even as savage man, untam'd by law,
Kneel'd in mute worship at great Nature's shrine,
Whose virgin strength seem'd majesty divine!
Erst, in her forests of primeval oak,
Dodona on each leaf beheld a sign
Vocal with prophecy; as the breeze awoke
The voices of the past and of the future spoke.

"The charmed world shall listen to thy strains,
Caught from the heavenly music of the blest,
Translated by our language, till the pains
Of mortal life so truly they express'd,
Mixt with the sad notes of thy own unrest.
Thy lyre at last became a fearful power,
Sullied, yet ever and anon sacred
By breaths from Eden, where a happy bower
Had seem'd to be thy lot, so fair thy spring-tide hour!

"Fair was thy hour of parting—as the sun,
When 'neath the monarch Alp he hides his head,
Parts suddenly, his course appointed done,
In light unveil'd, then comes the hour of dread;
So thou, the few sands of thy life all sped,
Didst pass away in one immortal dream
Of love and liberty—the illustrious dead
Urging thee on; and she, whose guardian beam
Shining on thee, had made thy life a silver stream."

The poem of Salathiel, or the Martyrs, is an interesting and well-told historical tale of the times of the Roman persecution of the early Christians. It is in the style of many of the Oxford and Cambridge poems on similar subjects, but is much superior, both in matter and verse, to most of the academic compositions which have been honoured with medals and prizes.

SUMMARY.

A THIRD edition, with considerable alterations, has appeared of *Readings in Science and Literature for Use in Senior Classes*, by Daniel Scrymgeour (Sutherland and Knox). The Summary of General History, which occupied a large space in the first and second editions, is taken out for separate publication, and its place occupied by miscellaneous selections, especially in the section devoted to Poetry, while a series of lessons on the most recent applications of Chemistry and the laws of Physiology have been added.

To Chambers's Educational Course are added *Medieval History*, a volume of 350 pages, in which art, science, and literature during the Middle Ages are treated separately in a supplementary chapter; *Exercises and Problems in Algebra*, a series with answers and hints to the solutions, and a series without answers; *A Key to Practical Mathematics* (W. and R. Chambers), containing solutions to the exercises in the treatise on practical mathematics in Chambers's Educational Course, by J. Pride; and the second part of *Virgil's Works*, with English notes, a carefully prepared and convenient edition.

To those who are looking for a comparatively new and secluded spot for sea-bathing, we may recommend a perusal of *The Historical and Picturesque Guide to Bournemouth*, by Philip Brannon (Longman and Co.) Testimonials of the highest character are given by Sir James Clark, Dr. Granville, and Dr. Aitkin of the sanitary character of this locality, situated on the confines of Hampshire and Dorsetshire, and of easy access by railway; and the surrounding scenery is described as being far from uninteresting, especially within a five or six hours' trip by wherry or yacht.

To the new school edition of texts of the classics, with English notes, publishing by Messrs. Parker, at Oxford, are added *The Antigone of Sophocles*, and *The Philoctetes of Sophocles*, the oration of *Æschines against Ctesiphon*, and *Cornelius Nepos*.

For Railway reading we have a cheap edition of *Lizzie Leigh, and other Tales* (Chapman and Hall), by the author of 'Mary Barton'; *Tales for the Marines* (Ward and Lock), by the author of 'Los Gringos,' and *The Wild Tribes of London* (Ward and Lock), by Watts Phillips; but the last, written under the mask of enforcing the necessity of education, is of a dangerous and repulsive character, with illustrations equally disgusting, and it is to be regretted that such pernicious trash is again making its appearance on the railway book stalls.

LIST OF NEW BOOKS.

Amphlett's (J.) *Key to the Revelation of St. John*, 8vo, 10 Books Lent; not Books Lent, post 8vo, cloth, 1s. 6d.
Charles Worthington, post 8vo, cloth, 5s.
Davis's (T.) *Devotional Verse for a Month*, 18mo, cloth, 3s.
Glances within the Vell, 12mo, cloth, 2s. 6d.
Guide to Jersey, 5th edition, square cloth, 2s.
Hoare's (N. E.) *English Boots, &c.*, 12mo, cloth, 2s. 6d.
Hughes's (E.) *Reading Lessons*, 2nd series, 12mo, cl., 3s. 6d.
Humphrey's *Manual of Greek and Latin Composition*, 2s. 6d.
Illustr., Hist., and Picturesque Guide to Bournemouth, 1s. 6d.

Jackson's (J.) *Sinfulness of Little Sins*, 12mo, 9th ed., 3s. 6d.
Jon's (T.) *Cantica Ecclesiastica*, folio, cloth, 3rd edit., £1 1s.
Lewis's (S.) *English Rivers*, fcap., cloth, 8s. 6d.
Napier's (Lord) *Modern Painting at Naples*, fcap., cl., 4s. 6d.
Pigot's (Rev. H.) *The Blessed Life*, post 8vo, cloth, 4s.
Pike's (J.) *Outlines of Sermons*, royal 32mo, cloth, 1s. 6d.
Plain Commentary, Vol. 4, part 1 and 2, St. John, 12mo, 10s.
Sinclair's (C.) *Jane Bouvier*, 12mo, boards, 1s. 6d.
Treasures in Needlework, 8vo, cloth, 7s. 6d., gilt, 8s. 6d.
Trotter's *Key to Arithmetick*, 12mo, bound, 4s. 6d.
Weston's (Rev. A.) *Pulpit Aids*, Vol. 6, 12mo, cloth, 2s. 6d.
Zornlin's (R. M.) *World of Waters*, 3rd ed., fcap., cl., 4s. 6d.

THE MEADOW GATE.

THE blue-bell peeps beneath the fern,
The moor its purple blossom yields,
'Tis worth full six days' work to earn
A ramble 'mid the woods and fields:
There is an hour to silence dear,
An hour for which a king might wait;
It is to meet, when no one's near,
My Mary by the meadow gate.

When love inspires the linnet's breast,
How swift he speeds from spray to spray;
His song is of his woodland nest,
Far hidden from the peep of day.
Would such a nest were my sweet lot,
Would I might be some dear one's mate;
I'd ask, to share my lowly cot,
My Mary by the meadow gate!

There is a tide the streamlet seeks,
A full mile from its course it veers,
And into silvery music breaks
When from the vale the sea appears.
Oh! twenty miles my eager feet
Would wander long, and linger late,
One happy moment but to meet
My Mary by the meadow gate.

CHARLES SWAIN.

BRITISH ASSOCIATION.

THE meeting of the British Association at Glasgow was brought to a close on Wednesday, when the President, the Duke of Argyll, gave the usual valedictory address. With one exception this meeting has been, in point of numbers and of financial results, the most successful in the annals of the Association, the final list of members reaching 2140, and the amount paid into the Treasury 2314l. We may add, that on no former occasion has a larger number of important papers been brought before the Sections. In his closing address the President gave an abstract of the topics of greatest interest communicated to each Section, and remarked that several of the papers were not only of scientific but of national value, such as those on improvements in naval architecture, and the construction of implements of war. Among the evening discourses, that which excited the most popular interest was one by Colonel Rawlinson on Assyrian and Babylonian Antiquities and Ethnology, in which he described his gradual decipherment of the cuneiform inscriptions, and showed the great value of the information thus curiously obtained. At the meeting of the General Committee on Monday, there was a sharp contest between the deputations from Cheltenham and Brighton for the honour of receiving the Association next year, but the show of hands was in favour of Cheltenham, from which place an invitation had been several years warmly urged; and Dr. Daubeny, as Senior Professor of the adjacent University, and one of the oldest friends of the Association, was elected President. At the concluding meeting of the General Committee, the following Recommendations were decided upon:—

Involving Grants of Money.

Kew Committee	£500	0	0
Professor Anderson.—Compounds of Platinum and other Metals with Ammonia	10	0	0
Professor Hodges.—Preparation of Flax	20	0	0
Professor Bunsen.—Chemical Action of Light	20	0	0

R. Mallett.—Earthquake Wave Experiments	£40	0	0
Professor Phillips.—Section of British Strata	15	0	0
R. Patterson.—Dredging near Belfast Council.—British Annelida	10	0	0
Lankester.—Periodical Phenomena	10	0	0
Miles.—Dredging on West Coast	10	0	0
Patterson.—Dredging Forms	10	0	0
Archer.—Natural Products imported to Liverpool	10	0	0
Keddie.—Natural Products imported to Glasgow	10	0	0
Jardine.—Propagation of Salmon	10	0	0
Henslow.—Typical Forms for Museums	10	0	0
Daubeny.—Vitality of Seeds	10	0	0
W. Fairbairn.—Strength of Iron Plates	10	0	0
James Thomson.—Measurement of Water by Weir Boards	10	0	0
General Chesney.—Life-boats and Fishing-boats	5	0	0

Reports Requested.

A. Cayley, Esq.—Recent Progress of Theoretical Dynamics.
Professor Phillips.—State of Knowledge on Cleavage and Foliation of Rocks.
Dr. Bennett.—Employment of Electrical Lamp Apparatus.
J. P. Bateman.—Supply of Water to Towns.
J. S. Russell.—Naval Architecture.
W. Fairbairn.—Boiler Explosions.
Professor Smith and Committee.—On Telegraphic Communication of Time Signals.
W. Fairbairn and Committee.—On the Prevention of Smoke.
Andrew Henderson and Committee.—On the Measurement of Ships for Tonnage.

Communications to be Printed among the Reports.

W. Whitehouse, Esq.—On the Rate of Electro-telegraphic Conduction.
T. Dobson, Esq., B.A.—On the Relation between Rotating Storms and Explosions in Collieries.

Researches Recommended.

A. Cayley, Esq., and Committee.—Catalogue of Philosophical Memoirs in Transactions of Learned Societies.
Dr. Whewell and Committee.—To Consider of Renewing the Balloon Experiments.
Astronomer-Royal for Scotland and Committee.—Observations on the Sun's Atmosphere at a Considerable Height above the Sea.
Earl of Harrowby and Committee.—On the Patent System.
James Thomson and Committee.—Friction of Disks in Water and Centrifugal Pumps.
William Fairbairn and Committee.—On certain Properties of Metals and Modes of treating them.
Earl of Harrowby and Committee.—On the Condition of the River Mersey.

Other Recommendations.

Thanks to the Parliamentary Committee for their valuable Report, and request to the President of the Association to express to H.M. Government their anxious hope, that an appropriate building in the Metropolis will be provided by the State, wherein the Scientific Societies may be placed in juxtaposition.

That R. Stephenson, Esq., M.P., be elected on the Parliamentary Committee, in place of Sir R. H. Inglis, Bart., deceased.

That the British Association express their satisfaction at the Establishment of the Meteorological Association for Scotland, and their willingness to afford them the assistance which can be yielded by the establishment at Kew.

Thanks to the Liverpool Compass Committee, and request to continue their researches.

PROCEEDINGS OF SECTIONS.

SECTION A.—(Mathematical and Physical Science.)

President.—Rev. Professor Kelland, M.A., F.R.S. L. and E.

Vice-Presidents.—Rev. Dr. Robinson; Sir David Brewster; Rev. Dr. Whewell; Professor Stokes; Rev. Dr. Scoresby; M. J. Johnston, Esq., M.A.

Secretaries.—Dr. Stevelly; Rev. Dr. Forbes; Professor Tyndall; Professor D. Gray, M.A., F.R.S.E.

Committee.—Admiral Beechey; Sir David Brewster; Captain Sir E. Belcher, R.N.; M. Mahmoud; Professor Phillips; Colonel Portlock; Colonel Sabine; Professor Nichol; Richard Greene, M.D.; Charles Babbage, Esq., F.R.S.; Professor W. Thomson; Professor C. P. Smyth; Admiral Sir John Ross; E. J. Lowe, Esq.; Robert Russell, Esq.; Isaac Fletcher, Esq.; Robert Grant, F.R.A.S.; John Lee, LL.D.; A. Claudet, F.R.S.; Captain Jacob, Astronomer, H.E.I.C., Madras Observatory; Colonel Sykes, F.R.S.; Lieutenant-Colonel James, R.E.; Rev. Professor Chevallier; Sir W. R. Hamilton, Astronomer-Royal, Ireland; Mr. P. L. Simmonds.

Professor Powell.—Report on Luminous Meteors. Sir David Brewster.—On the Radiant Spectrum.

J. P. Joule, Esq., F.R.S.—Account of Experiments on the Force of Electro-Magnets.

Professor W. Thomson, F.R.S.—On the Effect of Mechanical Strain on the Thermo-Electric Qualities of Metals. On Peristaltic Induction of Electric Currents in Submarine Telegraph Wires.

Rev. Dr. Scoresby.—Elucidations, by Facts and Experiments, of the Magnetism of Iron Ships, and its Changes.

Wildman Whitehouse, Esq.—Experimental Observations upon an Electric Cable.

Professor Nicoll Smyth.—Note on Solar Refraction.

Professor Nichol.—Remarks on the Chronology of the Formations of the Moon, with a Notice concerning the Great Breadalbane Reflector in the Glasgow Observatory.

Professor Stokes, F.R.S.—On the Achromatism of a Double-Object Glass.

Professor W. Thomson, F.R.S.—On the Use of Observations of Terrestrial Temperature for the Investigation of Absolute Dates in Geology.

Dr. Adamson.—On the Fixing of Photographs.

Anoine Claudet, Esq., F.R.S.—On the Polystereopticon; a New Instrument to exhibit Stereoscopic Pictures.

Dr. Green.—On a Machine for polishing the Specula of Reflecting Telescopes (illustrated by a Working Model).

A. J. Ellis, Esq., B.A.—On a more General Theory of Analytical Geometry, including the Cartesian as a Particular Case.

James Thomson, Esq., A.M., C.E.—On Certain Curious Motions Observable on the Surface of Wine and other Alcoholic Liquors.

Sir David Brewster.—On the Binocular Vision of Surfaces of Different Colours.

Professor Tyndall, F.R.S.—Experimental Demonstration of the Polarity of Diamagnetic Bodies.

Captain W. S. Jacob, Astronomer Royal, Madras.—On Certain Anomalies presented by the Binary Star, 70 Ophiuchi.

Admiral Sir John Ross.—On the Aurora Borealis.

George Buist, LL.D.—On Hailstorms in India, from 1851 to 1855, communicated by Colonel Sykes.

Astronomer Brown.—On the Establishment of a Magnetic and Meteorological Observatory on the Mountain Angustore Mullay—6200 feet—in Travancore, communicated by Colonel Sykes.

M. J. Johnson, Esq., M.A.—On the Detection and Measurement of Atmospheric Electricity by the Photo-barograph and Thermograph.

Matthew Collins, Esq.—On the Possible and Impossible Case of Quadratic Duplicate Equations.

Rev. Dr. Paterson.—On the Cultivation of Sand Hills.

Robert Russell, Esq.—On the Meteorology of the United States and Canada.

Professor Piazzi Smyth.—On Naval Anemometrical Observations. Apparatus exhibited.

Professor Connell, St. Andrews.—Improvements on a Dew-Point Hygrometer lately described by the Author.

Captain Fitzroy, R.N.—Communication of New Charts of Wind Movement on the Surface of the Globe in Accordance with the Directions of the Board of Trade.

Dr. Nichol.—Notices of the Climatological Elements in the Western District of Scotland.

Professor Chevallier.—On a Rainbow seen after Sunset. On the Analogies between Heat and Lightning.

Rev. Dr. Scoresby.—On certain Erroneous Principles as to Magnetic Phenomena, which have of late years been set forth and popularly received: and on Iron Ships.

Sir David Brewster.—On the Triple Spectrum.

M. Haidinger, Vienna.—On the Single Polarization of Cadmacetite.

Professor Tyndall.—Comparison of Magnetic Induction and Caloric Conduction, in Crystalline Bodies.

Arthur Cayley, Esq.—On the Porism of the In-and-circumscribed Triangle.

Professor W. Thomson.—On Electric Properties of Magnetized Iron. On New Instruments for Measuring Electric Potentials and Capacities. On the Thermo-Electric Position of Aluminium.

Dr. Lee.—On Six Photographs of the Observatory at Hartwell. On Fifty Photographs of Snow Crystals of 1855.

Dr. Taylor, Andersonian University.—On the Nature and Cause of Waterspouts.

Sir William Rowan Hamilton.—On the Conception of the Anharmonic Quaternion, and on its Application to the Theory of Involutions in Space.

Sir David Brewster.—On the Absorption of Matter by the Surfaces of Bodies. On the Remains of Plants in Calcareous Spar. Phenomena of Decomposed Glass.

Professor Piazzi Smyth.—On Altitude Observations at Sea.

Dr. Lee.—On Six Photographs of Hartwell Observatory. On a Photograph of the Craig Telescope at Wandsworth.

W. Symons, Esq.—On a New Form of the Gas Battery.

John Thomas Towson.—On the Means proposed by the Liverpool Compass Committee, for carrying out Investigations relative to the Laws which govern the Deviation of the Compass.

M. Negretti and Zambra.—On a New Maximum Thermometer.

Paul Cameron, Esq.—On the Deviations of the Compass in Iron Ships.

M. O. T. Mosotti.—On the Calculation of an Observed Eclipse or Occultation of a Star.

SECTION B.—(Chemical Science.)

President.—Dr. Lyon Playfair, C.B., F.R.S.

Vice-Presidents.—Baron Liebig; M. Fremy, Member of the Institute of France; M. Peligot, Royal Mint, Paris; Professor Anderson, F.R.S.; Dr. Andrews, F.R.S.; Dr. Daubeny, F.R.S.; Thos. Graham, Esq., F.R.S.; Dr. W. A. Miller, F.R.S.; Dr. R. D. Thomson, F.R.S. L. and E.

Secretaries.—Professor Frankland, Ph.D., F.R.S.; Dr. H. E. Roscoe.

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Professor Andrews, F.R.S., Vice-Principal of Belfast College.—On the Polar Decomposition of Water by Frictional and Atmospheric Electricity.

B. Stewart, Esq., of Melbourne.—On Certain Laws observed in the Mutual Action of Sulphuric Acid and Water.

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Dr. Greville Williams.—On the Basic Constituents of Coal Naphtha.

Professor Penny.—On the Phosphorescence and Composition of Plate Sulphate of Potash.

Dr. Stevenson Macadam.—On the Chemical Constitution of the Water of the Clyde.

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Professor Andrews, F.R.S.—On an Allotropic Modification of Chlorine and Bromine analogous to the Ozone from Oxygen.

Professor Bunsen (of Heidelberg), and Dr. H. E. Roscoe (of London).—On Photochemical Researches, with particular reference to the Laws of the Chemical Action of Light.

Professor Ramsay, F.R.S.—On a Process for obtaining Lithographs by Photographic Process.

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Mrs. A. Cross.—On the Apparent Mechanical Action accompanying Electrical Transfer.

Professor G. Wilson.—On the Proofs of the Existence of Haloid Salts in Solution.

Dr. Daubeny, F.R.S.—Extracts from a Letter from the Rev. A. Farrar, of Queen's College, Oxford, on the late Eruption of Vesuvius.

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J. B. Edwards, Esq., Ph.D., F.C.S.—On the Titaniferous Iron of the Mersey Shore.

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Dr. Hassall.—On the Chemistry of the Adulteration of Food.

M. le Professeur Du Lanza, of Dalmatia.—Observations on the Polarizing Property of the New Crystals of Cadmacetite.

M. Peligot.—On the Composition of Air dissolved in ordinary Water.

Professor Anderson.—Report on the Progress of the Chemical Manufactures of Glasgow.

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for Obtaining and Purifying Glycerine, and on some of its Applications.

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Chevalier de Clausen.—On the Preservation of the Potato Crop.

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John Horsley, Esq.—On a New Method of Testing for, and Manufacturing Iodine.

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R. Warrington, Esq.—On the Occurrence of Oxichloride and Red Oxide of Mercury in certain Specimens of the Hydrargyrum cum crætâ.

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Edward Hagley, Esq.—Experiments on the Compounds of Tin with Arsenic.

C. Nicholson, Esq., and Dr. D. Price.—On the Chemical Compounds of some Iron Ores called "Brass," occurring in the Coal Measures of South Wales.

R. Galloway, Esq.—On the Use of Phosphate of Potash in a Salt Meat Dietary.

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Professor Harkness.—On the Lowest Sedimentary Rocks of Scotland. On the Geology of the Dingle Promontory, Ireland.

Mr. James Bryce.—On the Glacial Phenomena of the Lake District of England.

John Buchanan, Esq.—On Ancient Canoes found at Glasgow.

Mr. W. Darling.—On the Probable [Maximum Depth of the Ocean.

J. W. Dawson, Esq., of Nova Scotia.—On the Fossils of the Coal Formation of Nova Scotia.

Mr. R. Stimson.—On New Forms of Crustacea from the District of Lesmahagow.

Sir Roderick I. Murchison, F.R.S., D.C.L., &c., and Professor James Nicol, F.R.S.E.—New Geological Map of Europe exhibited.

Captain Sir E. Belcher, R.N.—Notice of the Discovery of Ichthyosaurus and other Fossils in the Northern Expeditions.

H. C. Sorby, Esq., F.G.S.—On some of the General Mechanical Structures of Limestone.

Evan Hopkins, F.G.S.—On the Meridional and Symmetrical Structure of the Globe—its superficial Changes, and the Polarity of all Terrestrial Operations.

Robert Allan, Esq.—On the [Present Condition of the Geysers of Iceland.

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J. W. Salter, Palaeontologist of the Geo. Sur.—On the Discovery of Organic Remains in the Rocks of the Longmynd, Shropshire, the Cambrian of the Geological Survey. Communicated by Sir R. I. Murchison.

Richard Banks, Esq.—On the Recent Discovery of Ichthyolites and Crustacea in the Tilestones of Kingston, Herefordshire. Communicated by the President.

Rev. W. R. Symonds.—On a Phyllopod Crustacean in the Upper Ludlow Rock of Ludlow. Discovered by H. Lightbody, Esq.

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Charles M'Laren, Esq.—On the Excavation of certain River Channels of Scotland.

Professor Jas. Nicol.—On Striated Rocks, and other Evidences of Ice Action observed in the North of Scotland.

Andrew C. Ramsay, F.R.S., F.G.S., Local Director of the Survey.—On the Commencement and Progress of the Geological Survey of Great Britain in Scotland.

James Bryce, F.G.S.—On a lately discovered Tract of Granite in Arran; and on the Relative Ages of the various Granites and other Igneous Products in that Island.

Professor Phillips, F.R.S., F.G.S.—Remarks on Certain Trap Dykes in Arran.

Alexander Bryson, F.R.P.S.E.—On Sections of Fossils from the Coal Formation of Midlothian.

Professor Wyville Thomson.—On the Fauna of the Lower Silurians of the South of Scotland.

D. Forbes, F.G.S.—On the Relations of the Silurian and Metamorphic Rocks of the South of Norway.

Dr. Lanza.—On the Formations of Dalmatia, and some new Radiolites and Hippurites from the Chalk. Communicated by J. W. Woodall.

J. W. Salter, Palaeontologist to the Geological Survey.—Some Additions to the Geology of the Arctic Regions.

Mr. D. Page.—On the Pterygotus and Pterygotus Beds of Great Britain.

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H. D. Rogers, Boston, U.S.—On some Features in the Geology of the United States. Illustrated by a New Geological Map. Note on a recent Geological Survey of the Region between Constantinople and Broussa, in Asia Minor, in search of Coal, by Mr. H. Poole. Communicated by Sir R. I. Murchison, with the permission of the Earl of Clarendon.

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Professor Henslow.—Report on Typical Forms for Museums.

Mr. R. Patterson.—Exhibition of a Series of Zoological Diagrams, prepared for the Department of Science and Art, Marlborough-house.

Mr. E. J. Lowe.—On a Singular Mortality among the Swallow Tribe.

Mr. Fulton.—On the Application of the Principles of Ward-Case Cultivation to Agriculture.

Dr. Duncan.—On the Impregnation of Phanerogamous Plants.

Dr. Spencer Cobbold.—Description of a New Trematode infesting the Giraffe. Description of Mal-formed Trout.

Andrew Murray, F.R.P.S.E.—Report on the Recent Additions to our knowledge of the Zoology of the West Coast of Africa. Abstract of the Natural History of a recent Voyage up the River Tebadda, by Dr. W. B. Baikie.

J. Baker.—On the Geological Distribution of Plants.

Dr. Dickie.—Notes on the Homologies of Lepismide.

Spence Bate, Esq.—Report on the British Amphipodous Crustacea.

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M. Nachet.—On new Forms of Microscope, adapted for Physiological Demonstration.

Mr. N. B. Ward.—On Vivaria.

Rev. C. P. Miles, M.D.—Some Remarks on the Fauna of the Clyde, and on the Vivaria now exhibited in the City Hall.

Mr. Lucas Barrett.—Notes on the Brachiopoda observed in a Dredging Tour with Mr. M'Andrew on the Coast of Norway, in the Summer of the present Year, 1855.

Mr. M'Andrew.—Exhibition of Zoophytes, Molluscs, &c., observed on the Coast of Norway.

Mr. Ladd.—Exhibition of Forms of Microscope.

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Mr. J. Price.—Notes on Animals.

Dr. Carpenter.—On the Occurrence of the Pentastomid Larva of *Comatulæ rosacea* in Lamlash Bay. On the Structure and Development of *Orbitolites complanatus*.

Chevalier de Clausen.—On Papyrus, Bonaparte, and the other Plants which can furnish Fibres for Paper Pulp, &c. On *Hancornia speciosa*, and Artificial Gutta Percha and India Rubber. On the Employment of Algae and other Plants in the Manufacture of Soap. On the Preservation of the Potatoe Crop.

Mr. Hugh Miller.—On the Fossil Flora of Scotland.

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Professor Daubeny.—On the Action of Light upon the Germination of Seeds. Report on the Vitality of Seeds.

Sir Edward Belcher.—Remarks on the Trunk of a Tree growing in the Arctic Circle.

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Dr. Lankester.—Report on the Registration of Periodic Phenomena. Communication from Dr. Redfern on Chemical Products of Torbane Hill Mineral.

Mr. P. Clark.—On the Flowering of Victoria Regia in the Royal Botanic Gardens, Glasgow.

Dr. Lankester.—Exhibition of Representations of Natural History Objects by Photography. Exhibition of a Collection of Portuguese Ferns, made by Mr. Furlong.

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Dr. Michelsen.—On the Flowers and Vegetation of the Crimea.

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Dr. Henry Nelson.—On the same subject.

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On the Occurrence of Leucine in the Pancreatic Juice and Contents of the Intestine.

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Mr. James Macdonald will Exhibit and Describe an Andrometer, showing the Relation of Form, Size, and Strength, of the Human Body.

Professor Macdonald.—On the Vertebral Homologies.

Professor Allen Thomson will Show and Describe some Malformations.

Professor Retzius.—On Brain of the Diomedea exulans, or Albatross.

Professor Sundewald.—On the Homologies of the Muscles of the Limbs in Birds.

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James N. Ramsay, Student of Christ Church, Oxon.—Short Account of an Ascent of Mont Blanc, by a New Route from the side of Italy.

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John Strang, LL.D.—On the Progress, Extent, and Value of the Coal and Iron Trades in the West of Scotland.

John Glyde, jun., Esq.—On the Localities of Crime in Suffolk.

The Rev. A. K. McCallum, M.A.—On Juvenile Delinquency, its Causes and Cure.

James McClelland, Esq.—On Measures Relating to the Adoption of the Foundry and Agricultural System for the Reformation of Criminal and Destitute Children.

William Newmarch, Esq.—Remarks on Two Lectures delivered at Oxford in Trinity Term, by the Professor of Political Economy, on the Subject of a Recent Paper by Mr. Newmarch, on the "Loans raised by Mr. Pitt, 1793-1801."

Professor Hussey Walsh.—On the Price of Silver of late years, affording no correct Measure of the general Value of Gold.

John Yeats, Esq., F.R.G.S.—On our National Strength, tested by the Numbers, the Ages, and the Industrial Qualifications of the People.

Professor A. Buchanan, M.D.—On a Mechanical Method whereby a Life Table commencing at Birth, may be Converted into a Table exactly similar commencing at any other Period of Life.

J. W. Gilbert, Esq., F.R.S.—On the Laws of the Currency in Scotland.

Count David Frölich.—An Analysis of some of the

Principles which regulate the Effects of a Convertible Paper Currency.

William A. Guy, Esq., M.B.—On the Fluctuations in the Number of Births, Deaths, and Marriages; and in the Number of Deaths from Special Causes in the Metropolis during the last Fifteen Years—1840-54.

John Stark, Esq.—Return of the Number of Civil Actions and Civil and Criminal Prosecutions and Informations in the Northern Circuit of Newfoundland, during 29 Years—1826-55.

Richard Valpy, Esq.—On the Effect of the War on the Principal Articles of Russian Produce.

John Coldstream, Esq., M.D.—On some of the Results Deducible from the Report on the Statistics of Disease in Ireland, published along with the Census of 1851.

Lieut.-General Sir Charles W. Pasley, K.C.B., R.E., F.R.S.—On a Plan for Simplifying and Improving the Measures, Weights, and Money of this Country, without materially Altering the present Standards.

Theodore W. Rathbone, Esq.—On Decimal Accounts and Coinage.

P. Gale, Esq., M.A.—On an Easy and Practical Method for a Decimal Arrangement of our Land Measures, in connexion with the Ordnance Survey of Scotland.

P. L. Simmonds, Esq.—On the Growth and Commercial Progress of California and Australia.

William Pare, Esq.—Some Account of the "Equitable Villages" now Formed and Forming in the United States of North America, with a Sketch of the Principles upon which they are Founded.

John Locke, Esq.—On the Agricultural Labourers of England and Wales, their Inferiority in the Social Scale, and the Means of effecting their Improvement.

W. P. Alison, M.D.—Notes on the Application of Statistics to several Questions in Medical Science, particularly as to the External Causes of Disease.

A. G. Malcolm, M.D.—On the Influence of Factory Life on the Health of the Operative, as founded on the Medical Statistics of this Class at Belfast.

David Stow, Esq.—On Moral Training Schools for large Towns.

Andrew Tennent, Esq.—Statistics of a Grammar-school Class of 115 Boys.

P. L. Simmonds, Esq.—Statistics of Newspapers of various Countries.

Robert Clarke, Esq.—On the Prevailing Diseases in the Colony of Sierra Leone.

Lady Bentham.—On an Improved Mode of keeping Accounts in our National Establishments.

John Reid, Esq.—On the Progressive Rates of Mortality as occurring in all Ages; and on certain Deviations.

SECTION G.—(Mechanical Science.)

President.—W. J. Macquorn Rankine, C.E., F.R.S. L. and E.

Vice-Presidents.—Robert Napier, Esq.; Joseph Whitworth, Esq.; Dr. Neil Arnott, F.R.S.; William Fairbairn, C.E., F.R.S.; George Rennie, Esq., C.E., F.R.S.

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The President of the Section.—Opening Remarks on the Objects of the Section.

William Fairbairn, C.E., F.R.S.—Provisional Report on the Strength of Iron Plates. Provisional Report on Boiler Explosions.

W. J. M. Rankine, C.E., F.R.S.—On Practical Tables of the Pressure and Latent Heat of Vapours.

Charles Piazzi Smyth, Astronomer Royal for Scotland.—On the Transmission of Time Signals.

James Thomson, A.M., C.E.—On Practical Details of the Measurement of Running Water by Weir Boards.

A new Air-Pump, invented and constructed by James Laing, was exhibited.

The Earl of Harrowby.—Report of Inventors' Funds and Patent Laws Committee.

W. J. Macquorn Rankine, C.E., F.R.S.—On the Operation of the Patent Laws.

W. Bridges Adams, C.E.—On Artillery and Projectiles.

Discussion on the Paper of W. Bridges Adams, C.E., "On Artillery and Projectiles," was continued.

George Rennie, C.E., F.R.S.—On the Effects of Screw Propellers when Moved at Different Velocities and Depths.

James Thomson, A.M., C.E.—On an India-Rubber Valve for Drainage into Tidal Outfalls.

William Gorman, Esq.—On a Momentum Engine for Steam or Water. On a Water Meter.

William Fairbairn, C.E., F.R.S.—On the Machinery of the Universal Exhibition at Paris.

First Report of the Liverpool Compass Committee, on the Deviations of the Needle in Iron and other Vessels, occasioned by Inductive or Polar Magnetism, by J. B. Yates, F.A.S., Chairman to the Compass Committee, and John Grantham, C.E., Honorary Secretary.

Andrew Henderson, Esq.—Report of the Committee on Life Boats.

Thomas Dobson, B.A.—On the Relation between Revolving Storms and Explosions in Coal Mines.

James R. Napier, Esq.—Description of an Expeditious Method of Drying Timber.

Report of Committee on the Friction of Discs in Water and on Centrifugal Pumps.

Henry P. Babbage, Esq.—On Mechanical Notation, as Exemplified in the Swedish Calculating Machine of Messrs. Schütz.

James R. Napier, Esq.—Description of the Launch of the Steamer Persia. On a Simple Boat Plug.

William Bridges Adams, C.E.—On Railways and their Varieties.

John Taylor, M.D.—An Account of Experiments on Combustion in Furnaces, with a view to the Prevention of Smoke.

George Mills, Esq.—On Manœuvring Steamers.

William Sim, Esq.—On Blasting Rocks.

James Thomson A.M., C.E.—On a Windmill and Centrifugal Pump erected for Drainage and Irrigation. On the Friction Break Dynamometer.

J. F. Ure, C.E.—On the Navigation of the Clyde.

Andrew Henderson, Esq.—On the Measurement of Ships.

Robert William Billings, Esq.—On the Mechanical Principles of Ancient Tracery.

Herbert Mackworth, Esq.—Description of the Metra.

Robert Barklay, Esq.—On an Instrument for Sounding.

Lady Bentham.—On Continuous Work in Dock-yards.

Robert Jamieson, C.E.—On a Compass free from Local Attraction.

James Gall, jun., Esq.—On the Mutual Influence

of Capillary Attraction and Motion on Projectiles; and its Application to the Construction of a new kind of Rifle Shells and Balls, to be thrown from Common Guns.

Professor Macdonald.—On the Structure of Shell Mortars without Touch hole, to be discharged by Galvanic Circuit.

Moses Holden, Esq.—On Working a Steam Engine with Rarefied Air.

Dr. March.—On a Screw Vent for turning Spiked Guns into Use.

Robert Mair, Esq.—On an Application of Galvanic Power to Machinery.

TOPICS OF THE WEEK.

THE complaints made against the Government at the commencement of the war with Russia, of not so far respecting the interests of art, as to send a party of photographers to the Crimea, have been satisfied with the most signal success by private enterprise. Messrs. Agnew and Sons, print-publishers of Manchester, appear to have arranged, in a very spirited manner, with Mr. Roger Fenton for his services in carrying out this undertaking, and the result, after a journey of no slight intrepidity and perseverance, and not unattended with danger, is such as to command the attention and sympathy of all classes of the people. Mr. Fenton, with the aid of a huge travelling laboratory, which forms the subject of one of his pictures, employed himself during the whole of the spring and summer of the present year making photographic landscapes and portraits in the vicinity of Sebastopol during the operations of the siege. Every grade of Crimean hero, from the Allied Commanders-in-Chief to 'The Times' correspondent, is represented among the portraits, and even the Council of War held by Lord Raglan, Marshal Pelissier, and Omar Pacha, preparatory to the capture of the Mamelon, has been preserved to the remembrance of future ages by the chemical agency of that memorable morning's sun. The pictures represent officers and soldiers of all ranks, English and French, including Zouaves and Vivandières, Croats and Montenegrins, in most characteristic groups and attitudes, and the views of Balaclava Harbour and the adjacent plain, with the unloading of the transports and the arrival of materials for the railway, the quays everywhere covered with cattle for sustaining life, and piles of shot and shell for annihilating it, illustrate in a variety of scenes the stirring and deadly business of the period. At every point the mind of the spectator is impressed, to a pitch of thoughtful astonishment, by the irresistible truthfulness of the delineations. The absolute life and action, scenery and incidents, of the great siege are brought home to the senses of conviction and feeling in a manner truly marvellous; and in one picture, representing that depression in the field of Sebastopol, which, from its exposure to the fire of the enemy, was called the Valley of the Shadow of Death, all thickly strewn with cannon balls and fragments of shells, we have a reminiscence that will draw forth many a silent tear. A more impressive exhibition or more deeply interesting application, in an historical point of view, of the photographic art, it is scarcely possible to imagine, and its interest to future generations will exceed that even of the present. It is obvious that photographs command a belief in the exactness of their details which no production of the pencil can do, and when portraying incidents of historical moment, that pass away instantly and are gone, their interest is great indeed. The pictures, two hundred and eighty in number, are being publicly exhibited at the Gallery of the old Water-Colour Society, Pall Mall East, prior to their being printed for circulation.

The obituary of the week contains the name of J. F. W. Johnston, Esq., Professor of Chemistry in the University of Durham, and Fellow of the Royal Societies of London and Edinburgh, who died on Tuesday, aged fifty-nine. Mr. Johnston was the author of several works on chemistry, chiefly in its relation to geology and agriculture. His 'Elements of Agricultural Chemistry' has passed

through several editions. His latest publication was a treatise 'On the Chemistry of Common Life,' giving a popular account of the composition of foods, drinks, &c. In 1851 Mr. Johnston published, in two volumes, a valuable work, entitled 'Notes on North America,' which country he had recently visited for the purpose of obtaining information on its mineral and agricultural resources.

Durham has sustained lately another great loss in the death of the Rev. Dr. Gilly, one of the canons of Durham Cathedral and vicar of Northam-on-the-Tweed, who died at his residence in the city of Durham, in the 67th year of his age. "The death of this liberal and enlightened divine," says a local paper, "is deeply lamented by all classes, more especially by the peasantry of North Northumberland. Dr. Gilly was the first person who sought to ameliorate the condition of the agricultural labourers in North Northumberland by calling the attention of landholders and the general public to the then miserable state of the cottage dwellings generally found upon the estates in this district; and his benevolent suggestions have since been carried out with much spirit by the Duke of Northumberland and other large landholders." Dr. Gilly was also favourably known as the biographer of Felix Neff, the apostolic pastor of the French Vaudois, and as a writer of several works on the Waldenses, a people to whom he was zealously attached, and to whose claims on the sympathy of the English Protestants he was the first to draw attention. He was the means of raising a large subscription on their behalf, by which a college and library at La Tour, in Piedmont, was founded and maintained. Up to the time of his last sickness Dr. Gilly was engaged in raising money for the extension of education among this interesting community. It was by Dr. Gilly's request that Mr. Baines, of Leeds, published the account of his visit to the Vaudois in 1854, which forms the last number of Longman's Traveller's Library.

Mr. Henry Lawson, of Bath, Fellow of the Royal and Astronomical Societies, who, it may be remembered, offered his scientific instruments to found an observatory at Nottingham, on conditions (see 'L. G.', 1854, p. 723) which, depending mainly on Government assistance, were not carried out, died a few days since, and has bequeathed 200*l.*, free of legacy duty, to the Royal Society.

Mr. B. Pistrucci, Her Majesty's Chief Medalist, also died on Sunday last, at the advanced age of seventy-three.

We are happy to be able to state that the report which was circulated last week in Glasgow, and to which we gave too ready credence, of the death of Mrs. Smith, sen., of Jordanhill, mother of the eminent geologist, has received the following contradiction:—

To the Editor of the Literary Gazette.

Glasgow, 18th September, 1855.

SIR,—There has just been pointed out to me, in your last number, an article announcing the death of Mrs. Smith, sen., of Jordanhill. I beg to inform you that that venerable lady (my mother), although suffering more than usual from the infirmities attending her advanced years, still lives; and it is the hope of her family and friends that her life may still be prolonged. You must be aware that such a paragraph as you have incautiously inserted is calculated to cause much pain and annoyance to Mrs. Smith's relatives and friends, and it appears to me to be now your duty to counteract the mischief, so far as in your power. My brother, Mr. Smith of Jordanhill, has undoubtedly been prevented from attending the meetings of the British Association, but that has been from an indisposition which has prevented him from leaving his own house for the last week.—I am, Sir, your obedient servant,

WM. SMITH, of Carbeth, Guthrie.

Mrs. Smith, we are informed by another Scottish correspondent, was very seriously unwell, but she has recovered, and should she live till March next, will complete her 101st year.

Colonel Rawlinson, in his address to the British Association in the City Hall at Glasgow, on Monday evening, gave a lucid exposition of the history and progress of the deciphering of the cuneiform inscriptions, with a detailed narrative of his own most recent discoveries and researches. Of these the most remarkable and important were the excavations at Birs Nimroud, heretofore popularly believed, and figured in the illustrated Bible, as

the site of the Tower of Babel, but which he had ascertained to be a temple built in seven stages, one for each of the seven planets, of most ancient origin, and repaired by Nebuchadnezzar, whose inscribed tablets recording his work were read to the meeting. Colonel Rawlinson stated that the British Museum now possessed a vast number of Assyrian and Babylonian records, from which he expected that great light would be thrown on the history, institutions, literature, and science of the oriental nations from patriarchal times. Chronological facts are now clearly ascertained by these cuneiform inscriptions as remote as 2200 B.C. Colonel Rawlinson intends to devote the next year to the study and translation of the recently acquired inscriptions, the leading results of which he hopes to communicate to the British Association at Cheltenham. He concluded his address by mentioning one satisfactory fact, that if a system of chronology were drawn up from the inscriptions alone, it would almost exactly correspond with the chronology of Scripture history.

The annual meeting of the members of the Glasgow Art-Union was held on Wednesday, in the Merchants' Hall of that city, the Rev. Principal Macfarlane presiding. The annual report having been read, giving a flattering statement of the affairs of the association, the drawing took place for the prize paintings, bronzes, statuettes, and chromo-lithographs. The number of subscribers this year was 17,000, which enabled the committee to expend a large sum in the purchase of works of art. Many are also of higher value than hitherto—such as *Watching the Combat*, by J. Sant, 400*l.*; *Reason and Faith*, by J. Fead, 350*l.*; *Pirates alighting on a Merchantman*, by F. Bead, 305*l.*; *Edinburgh from Dalmeny Park*, by Horatius M'Culloch, 300*l.* These are considered the finest works ever produced by the respective artists. The pictures have been exhibited in London, Edinburgh, Manchester, Liverpool, Birmingham, Preston, Worcester, and Glasgow, and have elicited the warmest expressions of approval from the visitors who thronged to see them. The following is a summary of the various works purchased and their value:—Paintings, 6869*l.*; bronzes and statuettes, and 1000 facsimiles of John Gilbert's painting of *Spanish Peasants*, executed in chromo-lithography, valued at 1500*l.*; engraving steel plate of *Coming of Age*, 2000*l.*—printing, about 3500*l.*—making a total sum of 13,869*l.* expended upon works of art.

A country clergyman, desiring a few days since to visit the British Museum Library, gives an amusing account, in a letter to 'The Times,' of the absurd routine difficulties which he found opposed to his admission.—'After eight years' economy in a small living in a provincial town, I thought I had saved sufficient to render it prudent to take my wife to see the sights of London, and, among other places, we paid a visit to the British Museum, and, as a clergyman, it was not unnatural for me to wish to see the library. On inquiry, an officer told me that I could not be permitted to see it without an order. 'An order,' I said, 'where can I get one?' 'The Archbishop of Canterbury,' he replied, 'can give you one.' 'Oh indeed,' I said, 'then the Bishop of London would not do?' 'Officer (after a pause).—'Why, yes, I think he would; I believe he is one of the directors.' Being a clergyman, I should of course be very happy to be on intimate terms with either of the dignitaries referred to, but it really seems rather hard that, because I have not that good fortune, I should be excluded from the gratification of seeing the library of a great national institution.'

On Monday, in the Geographical Section of the British Association, the greater part of the day was devoted to the subject of Arctic discovery. Papers were read by or from Captain Sherard Osborne, Sir Edward Belcher, Captain M'Clure, Dr. Simpson, and Captain Collinson. The Arctic explorers now in this country mustered strong, Dr. Scoresby and Sir John Ross being among them. Sir John Richardson, the President of the Section, introduced the reading of the papers by a historical statement of the progress of Arctic discovery, and the particular routes of the recent exploring voyages.

The paper of Captain Osborne, who has since so much distinguished himself by his gallant achievements in the Sea of Azoff, was read by Dr. Shaw. Sir Edward Belcher then read an account of his voyage, after which a long discussion took place, in which Dr. Scoresby, Sir John Ross, Sir John Richardson, and other Arctic voyagers and travellers, took part.

In anticipation of a general collection on the expected day of Thanksgiving for Victory, a circular letter, dated 20th September, the first anniversary of the battle of the Alma, calls attention to the claims of the Cambridge Asylum for Soldiers' Widows, established in 1851, in memory of the late royal and benevolent duke, after whom it is named.

Photography is being turned to a multitude of interesting scientific purposes. In the last sitting of the Academy of Sciences of Paris, a series of designs of the effects of the recent earthquake in various parishes of the canton of the Haut Valais in Switzerland were presented, as were also a number of designs of lofty glaciers, very interesting in a geological point of view.

A grand statistical congress has just been held in Paris. It was attended by statisticians, savans, journalists, and others of different countries, and sat for several days. Its proceedings have been but scantily reported in the French newspapers, and still more scantily in the English; but they were not without interest. Amongst other things, the Congress determined to cause the statistical returns of different countries to be drawn up, as far as possible, in the same form—a measure which will possess marked utility; and it had an interesting discussion on the possibility of establishing a uniform system of weights and measures in Europe, though without coming to any decisively practical conclusion. Reports and papers were read to it on a great many different subjects, and its deliberations in committees were not unimportant. Amongst the English gentlemen who attended the congress were Mr. Fonblanque, Dr. Farr, and M. Leone Levi.

The will of the late Abbott Lawrence, formerly American minister in this country, confirms the general estimation in which he was held as a man of public spirit and generous philanthropy. Besides numerous private gifts, he has left \$50,000 to the Lawrence Scientific School; \$50,000 for building model lodging-houses; \$10,000 to Boston Public Library; \$5000 to Franklin Library, in the city of St. Lawrence; \$5000 to American Bible Society; \$5000 to American Tract Society; \$5000 to Home Missionary Society. One half of the net rents of the lodging-houses is to be annually distributed to various charitable institutions in Boston, and the other half is to accumulate in order to constitute a fund for keeping the lodging-houses in order.

German newspapers announce that M. Freisalik, librarian of the University of Vienna, has discovered a manuscript copy, dating from the second half of the fifteenth century, of the famous old poem of the 'Niebelungen.'

The King of Holland, by royal decree, declares that the treaty with France for the mutual protection of literary, scientific, and artistic property, shall come into operation from the 20th of this month.

M. Bezzuoli, a distinguished Italian painter, and member of the Academy of Florence, has just died. The death of M. Lasinio, a Tuscan engraver of note, is also announced.

Cardinal Wiseman has, we learn, been formally appointed Librarian to the Vatican—a post of high literary distinction, at one time held by the celebrated Cardinal Mai.

Miss Mitford's library is to be sold on the 24th, at her late residence at Swallowfield.

Madame George Sand has achieved another great dramatic success, which bids fair to rival that of her *Francois le Champi*, which made such intense sensation in the French literary world a few years ago. Her new piece is called *Maitre Favilla*, and it has been produced at the Odéon Theatre at Paris. Like all her theatrical productions, it has little or no plot, properly so called, and shows a marked

contempt for, or ignorance of, the ordinary artifices of dramatic construction. It turns simply on a poor, crack-brained musician fancying himself the possessor of the title and estate of a deceased benefactor and friend, and acting as such in presence of, and towards the real owner of the estate and title—the clearing away of his illusion being the *dénouement* of the piece. But out of these slender materials, Madame Sand has weaved a most interesting play. The poor, crazy musician,—gentle, kind-hearted, guileless, full of love to wife and children and friends, is a character admirably conceived and developed, and one which wins its way to every heart. In opposition to him is a retired tradesman, full of shrewd, worldly common-sense—a man who has made money, keeps money, and likes money—to whom money is the great thing of life, but who, withal, is neither bad nor odious, nor ridiculous—one of those men, in short, who are to be met with by scores in every street. The contrast in the way of thinking and acting of the *artiste* and the trader is skilfully and brilliantly, yet unpretendingly brought out, and the result of it is, that whilst the former carries off all one's sympathies, the latter makes one feel a certain admiration for his practical sagacity. The other characters, though with less pretensions to originality, are also well drawn. The dialogue displays no affectation of wit or smartness, and carefully abstains from the 'hits' which, though commonplace, generally bring down a round of applause; but it is marked with a sort of lofty simplicity, if the expression may be allowed, which shows that it is the production of a master hand. The play is admirably acted, especially by Rouvière as the musician.

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL.—Sept. 3rd.—J. Curtis, Esq., F.L.S., President, in the chair. Mr. Douglas exhibited *Elachista Brunnicola*, reared from larvae mining the leaves of *Clinopodium vulgare*; *Lithocolletis comparella*, bred from a leaf of Lombardy poplar; and *Gelechia maculiferella*, captured at Lee. Mr. Waring exhibited some singular varieties of *Boarmia repandaria*, *Tephrosia crepuscularia*, and *Autidea rubidata*, all from the neighbourhood of Coomb Hurst, Croydon. Mr. Shepherd exhibited a specimen of the rare *Leucania musculosa*, taken near Brighton by Mr. J. N. Winter. Mr. Westwood directed attention to three new works by Dr. Burmeister, now in course of publication. The first, 'Uebersicht der brasilianischen Mutillen,' would include, besides those species in Dr. Klug's Memoir in the 'Nova Acta,' all those discovered by the author in Brazil. The second, 'Untersuchungen über die Flügeltypen der Coleopteren,' was an investigation of the venation of the wings of *Coleoptera*, an order in which little research had been made in this respect; and the third, 'Kritische Bemerkungen über M. S. Merian's Metamorphosen Insectorum Surinamensium,' would have the advantage of the studies of the Natural History of Insects made during the author's residence in Brazil. The President said, that during a recent tour on the Continent, he learned that the third volume of Professor Lacordaire's 'Suites à Buffon' was nearly ready, and that M. Candèze had accumulated a large quantity of material towards his monograph on the *Elateridae*, and still hoped to receive from English entomologists the assistance he had asked for, and which they were so well able to afford. Mr. Haldiday gave an account of some of the more interesting entomological subjects that came under his notice during the tour he made in company with the President. He particularly mentioned an adaptation of a microscope to a camera obscura, by Herr Winnert, of Crefeld, by means of which the image of an object was thrown upwards on to a horizontal surface of glass, and could be copied on tracing-paper with the greatest ease and correctness; and Mr. Haldiday thought the method far preferable to the use of the camera lucida.

VARIETIES.

Museum Statistics.—Taking the year generally, the decrease in the total number of visitors, as it is stated in the 'Report of the Zoological Society for 1854-5,' compared with 1853, only amounted to 1400, notwithstanding many unpropitious circumstances, while the decrease of visitors at the British Museum, as compared with 1853, amounted to no less than 201,851; the comparative numbers being as follows:—

British Museum.	Zoological Gardens.
1853 661,113	1853 409,076
1854 459,262	1854 407,676

Westminster Bridge.—In a short time the oldest of the bridges immediately connected with the metropolis will be removed; it is, therefore, interesting to note the following particulars respecting an almost superannuated public servant. The first stone of Westminster-bridge was laid in January, 1739, and occupied eleven years and nine months building. It was opened at twelve o'clock at night of 17th November, 1750. The reason for opening the bridge at this unseasonable hour seems to have been, that a day was appointed for the opening which proved to be Sunday; the opening, therefore, took place at night in order that as little attention as possible might be directed to the blunder. Notwithstanding all the precautions which were taken, in 1747 one of the piers sank, and damaged the arch to which it belonged so much that the commissioners gave directions for pulling it down, when by laying 700 tons of cannon on the lower part of the pier the foundation was supposed to have settled and set to rights. The charge of building this bridge, from the beginning to the finishing, and for procuring the several conveniences requisite, amounted to the sum of 389,500*l.*; whereof 197,500*l.* was raised by several successive lotteries, and the remainder, being 192,000*l.* was granted by Parliament.—*The Builder.*

Historical Relics.—The will of the late Mr. Wallace of Kelly contains the following bequest in favour of the Watt Institution, Greenock:—The various freedoms of the cities and towns, with the boxes or cases these are contained in, as conferred upon me for my public services, and especially for my successful labours in reforming the mismanagement I found existing in the General Post Office department of the kingdom, and which resulted in obtaining penny postage for the nation and for the world at large: Secondly, Two curious armed chairs presently in my possession; the one is the Chair of State and of Justice of the last Lord Chancellor of Scotland. It was long in possession of the Earls of Glencairn, and was purchased at Finlayston, at the sale of the effects of the last of these nobles, by Mr. Robert Paton, writer in Port Glasgow. It is covered with leather, has a drawer in front of the seat, with candlestick, ink, and penholders in the arms, and a desk at the back, and also two sockets of brass at the sides of the seat, and evidently was made to use by sitting on it in the usual way, or by sitting stride legs on it with the face of the occupier to the back as might suit necessity or convenience in a crowded court. The other armed chair is made of sweet chestnut wood, and has a piece of bend leather for its seat. It was the seat chair of an ancient Spanish Admiral, who had it in a voyage round the world, and dying at Havannah, it was sold there and brought thence to Port Glasgow. This chair, together with the former, I also acquired from Mr. Robert Paton for two easy chairs of modern shape and fashion: Thirdly—The picture I possess of Sir William Wallace; also a curious long chest of some kind of hardwood, with strange looking figures carved on the sides and lid or top of it; and also, a large round pewter plate with certain engravings thereon, which several articles I hereby leave and bequeath to the said museum, or to the managers or directors thereof for its behoof.—*Caledonian Mercury.*

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40	1 9 2	2 18 4	40	2 7 6	1 4 4	0 12 4	50	2 6 4	4 5 0
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